

109140 9665E860

SEQ ID NO: 4
 SEQ ID NO: 17
 gi12408272
 Y35897

MGSWQLITSVGVQNHGPGWTVAGQFQEKRRFTEEVIEYFQKKVSPVHLK
 MGSWQLITSVGVQNHGPGWTVAGQFQEKRRFTEEVIEYFQKKVSPVHLK
 MGSWQLITSVGVQNHGPGWTVAGQFQEKRRFTEEVIEYFQKKVSPVHLK

SEQ ID NO: 4
 SEQ ID NO: 17
 gi12408272
 Y35897

ILLTSDEAWKFRVRAELPREADALYEALKNLTPYVAIEDKMQKEQ
 ILLTSDEAWKFRVRAELPREADALYEALKNLTPYVAIEDKMQKEQ
 ILLTSDEAWKFRVRAELPREADALYEALKNLTPYVAIEDKMQKEQ
 -----MQKEQ

SEQ ID NO: 4
 SEQ ID NO: 17
 gi12408272
 Y35897

FREWFLKEPPQIRWKIQESIERLVRVIANIEKVRGCVIANVVGSGTGIL
 FREWFLKEPPQIRWKIQESIERLVRVIANIEKVRGCVIANVVGSGTGIL
 FREWFLKEPPQIRWKIQESIERLVRVIANIEKVRGCVIANVVGSGTGIL
 FREWFLKEPPQIRWKIQESIERLVRVIANIEKVRGCVIANVVGSGTGIL

SEQ ID NO: 4
 SEQ ID NO: 17
 gi12408272
 Y35897

SVIGVMLAPFTAGLSLITAAGVGLGIASATAGIASSIVENTYTRSAELT
 SVIGVMLAPFTAGLSLITAAGVGLGIASATAGIASSIVENTYTRSAELT
 SVIGVMLAPFTAGLSLITAAGVGLGIASATAGIASSIVENTYTRSAELT
 SVIGVMLAPFTAGLSLITAAGVGLGIASATAGIASSIVENTYTRSAELT

SEQ ID NO: 4
 SEQ ID NO: 17
 gi12408272
 Y35897

ASRLTATSTDQLEALRDILHDITPNVLSFALDFDEATKMIANDVHTLRRS
 ASRLTATSTDQLEALRDILHDITPNVLSFALDFDEATKMIANDVHTLRRS
 ASRLTATSTDQLEALRDILHDITPNVLSFALDFDEATKMIANDVHTLRRS
 ASRLTATSTDQLEALRDILHDITPNVLSFALDFDEATKMIANDVHTLRRS

FIG. 1A

109140 9665860

SEQ ID NO: 4
SEQ ID NO: 17
gi12408272
Y35897

KATVGRPLIAWRYVPINVVETLIRTRGAPTRIVRKVARNLGKATSGVLVVL
KATVGRPLIAWRYVPINVVETLIRTRGAPTRIVRKVARNLGKATSGVLVVL
KATVGRPLIAWRYVPINVVETLIRTRGAPTRIVRKVARNLGKATSGVLVVL
KATVGRPLIAWRYVPINVVETLIRTRGAPTRIVRKVARNLGKATSGVLVVL

SEQ ID NO: 4
SEQ ID NO: 17
gi12408272
Y35897

DVNVLVQDSLDLHKGAKSESAP-----
DVNVLVQDSLDLHKGAKSESASLRQWAOELEENLNELTHIQSLKAG
DVNVLVQDSLDLHKGAKSESASLRQWAOELEENLNELTHIQSLKAG
DVNVLVQDSLDLHKGAKSESASLLRQWAOELEENLNELTHIQSLKAG

FIG. 1B

1091740* 966555860

gil304189

gi571466

SEQ ID NO: 8

SEQ ID NO: 19

MASQIQKLLTTNQDLLLMQKGTMMRKVRTKSWKKLRYFRLQDDGMTVWHG
MASQIQKLLTTNQDLLLMQKGTMMRKVRTKSWKKLRYFRLQDDGMTVWHG
MASLQDQLTTDQDLLMQEGMPMKRVKRSKWKLLRYFRLQNDGTVWHA
MASLQDQLTTDQDLLMQEGMPMKRVKRSKWKLLRYFRLQNDGTVWHA
*** :. ***:*****.* *****:*****:*****.

gil304189

gi571466

SEQ ID NO: 8

SEQ ID NO: 19

RHLESISKPTFSISDVETIRKGDSELLRYLVEEFPLEQGFTIVFNGRRP
RHLESISKPTFSISDVETIRKGDSELLRYLVEEFPLEQGFTIVFNGRRP
ROARGSAPSPFSISDVETIRNGHDSSELLSLAEELPLEQGFTIVFHGRS
ROARGSAPSPFSISDVETIRNGHDSSELLSLAEELPLEQGFTIVFHGRS
*: .. **:***** **::***** *::*****:*****:*****.

gil304189

gi571466

SEQ ID NO: 8

SEQ ID NO: 19

NLDLVANSVEEAQTWMRGLQLLLVDLVARMNYQEQLDQMLREWFQADRNO
NLDLVANSVEEAQTWMRGLQLLLVDLVARMNYQEQLDQMLREWFQADRNO
NLDLMANSVEEAQTWMRGLQLLLVDLVTSMHQERLDQWLSDFQGRDKNQ
NLDLMANSVEEAQTWMRGLQLLLVDLVTSMHQERLDQWLSDFQGRDKNQ
*****:***** *****:*****: *::**:* * :***:.*:***

gil304189

gi571466

SEQ ID NO: 8

SEQ ID NO: 19

DSRMSFREAOIRLLLLMNVEMDEYAFSLFQEADVSQSNTILDSEEFVQFYK
DSRMSFREAOIRLLLLMNVEMDEYAFSLFQEADVSQSNTILDSEEFVQFYK
DGKMSFQEVQRLLHLMNVEMDQYAFSLFQAADTSQSGTLEGEFVQFYK
DGKMSFQEVQRLLHLMNVEMDQYAFSLFQAADTSQSGTLEGEFVQFYK
*:****:***** *****:***** **.*:***:*****

gil304189

gi571466

SEQ ID NO: 8

SEQ ID NO: 19

ALTKRTEIEELFENFSSDKQKLTLLFVDFLREEQKESDHSDDLAKLID
ALTKRTEIEELFENFSSDKQKLTLLFVDFLREEQKESDHSDDLAKLID
ALTKRAEVOELFESPSADGQKLTLLFDFLQEEQKERDCTSELALALID
ALTKRAEVOELFESPSADGQKLTLLFDFLQEEQKERDCTSELALALID
*****:*****.*:***** *****:*****:***** * :*:***:***

FIG. 2A

TOPT+0" 9655860

gi1304189		RYEPESENGRLLRVLKDGFLSYLCSADGNIFNPDCPLPIYQDMTQPLSHYY
gi571466		RYEPESENGRLLRVLKDGFLSYLCSADGNIFNPDCPLPIYQDMTQPLSHYY
SEQ ID NO: 8		RYEPESDSGKLRHVPSMDGFLSYLCSKGDIFNPACPLPIYQDMTQPLNHYY
SEQ ID NO: 19		RYEPESDSGKLRHVPSMDGFLSYLCSKGDIFNPACPLPIYQDMTQPLNHYY
		*****:.*: * ***** **:* ** *
gi1304189		INSSHNTYLLGDQFCGQSSVEGYIRALKRGCRCVEVDTWDPDGEPPVYH
gi571466		INSSHNTYLLGDQFCGQSSVEGYIRALKRGCRCVEVDTWDPDGEPPVYH
SEQ ID NO: 8		ICSSHNTYLVGDQLCGQSSVEGYIRALKRGCRCVEVDWMDGSGEPVYH
SEQ ID NO: 19		ICSSHNTYLVGDQLCGQSSVEGYIRCSG-G--REGVQLMRGTM-----
		* *****:***:*****. * *: *
gi1304189		GRTLTSRILFKDVLATLAQYAFQSSDYPLILSLDNHCTWEQQKTMAHLH
gi571466		GRTLTSRILFKDVLATLAQYAFQSSDYPLILSLDNHCTWEQQK-TMAHLH
SEQ ID NO: 8		GHTLTSRILFKDVVATVAQYAFQTSDDYPVILSLETHCSWEQQQ-TMARHL
SEQ ID NO: 19		-----
gi1304189		IAILGEQLLSTTLEEQ-IDIMPSPE-LRGKILVKGKKLRTIEVVEDSKEE
gi571466		IAILGEQLLSTTLEEQLIDIMPSPEQLRGKILVKGKKLRTIEVVEDSKEE
SEQ ID NO: 8		TEILGEQLLSTTLDGVLPQTLPSPPELRKILVKGKLTLEEDLEYEBEE
SEQ ID NO: 19		-----
gi1304189		BELEKDEGSDLDPASAEILDMQSPESQEQASGNKSNKKKFLLOSSTIL
gi571466		BELEKDEGSDLDPASAEILDMQSPESQEQASGNKSNKKKFLLOSSTIL
SEQ ID NO: 8		AEPELEESE-----IALESQFETEPPEQNLQNKKKK-----SKPIL
SEQ ID NO: 19		-----

FIG. 2B

TGTHO" 9665E860

g11304189

g1571466

SEQ ID NO: 8

SEQ ID NO: 19

CPDLSALVYLRTAPFCSTHSEKYNHYIDISSFSESKAKNLIKEAGNEF
CPDLSALVYLRTAPFCSTHSEKYNHYIDISSFSESKAKNLIKEAGNEF
CPALSSLIYILKSVSRFSTHSEKHYHFYEISSFSETKAKRLIKEAGNEF

g11304189

g1571466

SEQ ID NO: 8

SEQ ID NO: 19

VQHNARQLCRVYPSGLRTDSSNYPQEHNVGCOMVAMNMOTAGSAMDC
VQHNARQLCRVYPSGLRTDSSNYPQEHNVGCOMVAMNMOTAGSAMDC
VQHNRQLSRVYPSGLRTGSSIYNPGY-----

g11304189

g1571466

SEQ ID NO: 8

SEQ ID NO: 19

DGLFRQNGGGYVLKPEFLRDTQSSFNPMKPVSLYKAQILVVQVISGQRL
DGLFRQNGGGYVLKPEFLRDTQSSFNPMKPVSLYKAQILVVQVISGQRL

g11304189

g1571466

SEQ ID NO: 8

SEQ ID NO: 19

PKVDKTETTVDPLVRVELYGVPEDTKQETSYVENNGINPYWGGETFYF
PKVDKTETTVDPLVRVELYGVPEDTKQETSYVENNGINPYWGGETFYF

g11304189

g1571466

SEQ ID NO: 8

SEQ ID NO: 19

QIQVPELAMLRFFVKDYDRTSRNNFIGQYTLPTWTCMKHGHRHVSLLSKDG
QIQVPELAMLRFFVKDYDRTSRNNFIGQYTLPTWTCMKHGHRHVSLLSKDG

FIG. 2C

g11304189

g1571466

SEQ ID NO: 8

SEQ ID NO: 19

TIDGTHD"966E860

TSLHPASHFVYTCMQEDLDMDPE

TSLHPASIFVYTCMQEDLDMDPE

FIG. 2D

Y09T40" 9665E860

SEQ ID NO: 21

gi434306

P60724

TNLIYHKNIPEWAHVDFIWGLDAPHRMYNEI IHLMQQFETNLSQRCCEAVL
TNLVFHESIPEWEHLDFIWGLDAPWRLYNKIINLMRKYQ-----
PNLIYHKEI PFYNHLDFIWADAPQEVYNDIVSMISEDKK-----
.**:**:** :*:****:***.:****: **: : : :

FIG. 3B

109140*9665E860

```
SEQ ID NO: 27
Y05317
gi7110216
SEQ ID NO: 23
SEQ ID NO: 25
SEQ ID NO: 11

-----MQAKYSTRLMDLDDGDTTMSLHSAQASATTRHPEPRR-----
-----MQAKYSTRLMDLDDGDTTMSLHSAQASATTRHPEPRRTEHRAPSSTWRPVALTLLTL
-----MQAKYSTRLMDLDDGDTTMSLHSAQASATTRHPEPRRTEHRAPSSTWRPVALTLLTL
-----MQAKYSTRLMDLDDGDTTMSLHSAQASATTRHPEPRRTEHRAPSSTWRPVALTLLTL
-----MQAKYSTRLMDLDDGDTTMSLHSAQASATTRHPEPRRTEHRAPSSTWRPVALTLLTL
-----MSLHSAQASATTRHPEPRRTEHRAPSSTWRPVALTLLTL
*****

-----TVFYQLSNTGQDTISQMEERLGNTSQELQSLQVQNI KLAGSLQH
CLVLLIGLAAAGLLFFQYQLSNTGQDTISQMEERLGNTSQELQSLQVQNI KLAGSLQH
CLVLLIGLAAAGLLFFQYQLSNTGQDTISQMEERLGNTSQELQSLQVQNI KLAGSLQH
CLVLLIGLAAAGLLFFQYQLSNTGQDTISQMEERLGNTSQELQSLQVQNI KLAGSLQH
CLVLLIGLAAAGLLFFQYQLSNTGQDTISQMEERLGNTSQELQSLQVQNI KLAGSLQH
CLVLLIGLAAAGLLFFQYQLSNTGQDTISQMEERLGNTSQELQSLQVQNI KLAGSLQH
*****
.
*****
AEKLCRELYNKAG-----AHRCSPTCEQWKWHDNCYQ
AEKLCRELYNKAG-----AHRCSPTCEQWKWHDNCYQ
AEKLCRELYNKAG-----AHRCSPTCEQWKWHDNCYQ
AEKLCRELYNKAG-----AHRCSPTCEQWKWHDNCYQ
AEKLCRELYNKAGGYTRNMVPAASASSLSRLPHMGESAAAHRCSPTCEQWKWHDNCYQ
AEKLCRELYNKAGGYTRNMVPAASASSLSRLPHMGESAAAHRCSPTCEQWKWHDNCYQ
*****
FYKDSKWEDCKYFCLSENSTMINKQEDLEFAASQSYSEFFYSYWTGLLRPDSGKAWL
FYKDSKWEDCKYFCLSENSTMINKQEDLEFAASQSYSEFFYSYWTGLLRPDSGKAWL
FYKDSKWEDCKYFCLSENSTMINKQEDLEFAASQSYSEFFYSYWTGLLRPDSGKAWL
FYKDSKWEDCKYFCLSENSTMINKQEDLEFAASQSYSEFFYSYWTGLLRPDSGKAWL
FYKDSKWEDCKYFCLSENSTMINKQEDLEFAASQSYSEFFYSYWTGLLRPDSGKAWL
FYKDSKWEDCKYFCLSENSTMINKQEDLEFAASQSYSEFFYSYWTGLLRPDSGKAWL
*****
```

FIG. 4A

FIG. 4A

SEQ ID NO: 27	WMDGTPPTSELFHIIIDVTSPRSRDCVAILNGMIFSKDCKELKRCVCERRAGMVKPESLH
Y05317	WMDGTPPTSELFHIIIDVTSPRSRDCVAILNGMIFSKDCKELKRCVCERRAGMVKPESLH
gi7110216	WMDGTPPTSELFHIIIDVTSPRSRDCVAILNGMIFSKDCKELKRCVCERRAGMVKPESLH
SEQ ID NO: 23	WMDGTPPTSELFHIIIDVTSPRSRDCVAILNGMIFSKDCKELKRCVCERRAGMVKPESLH
SEQ ID NO: 25	WMDGTPPTSELFHIIIDVTSPRSRDCVAILNGMIFSKDCKELKRCVCERRAGMVKPESLH
SEQ ID NO: 11	WMDGTPPTSELFHIIIDVTSPRSRDCVAILNGMIFSKDCKELKRCVCERRAGMVKPESLH

SEQ ID NO: 27	VPPETLGECD-----
Y05317	VPPETLGECD-----
gi7110216	VPPETLGECD-----
SEQ ID NO: 23	VPPETLGECD-----
SEQ ID NO: 25	VPPETLGECDMMMMHHH
SEQ ID NO: 11	VPPETLGECD-----

FIG. 4B

109140" 96655860

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

VNPRALDPHAETNYIYFADTTSLIGROKIDGTERETILKDDLDNVE-----
VNPRALDPHAETNYIYFADTTSLIGROKIDGTERETILKDDLDNVEGIAVDWIGNNLYW
VNPRALDPHAETNYIYFADTTSLIGROKIDGTERETILKDDLDNVEGIAVDWIGNNLYW
MNPRALDPHAETGYIYFADTTSYLIGROKIDGTERETILKDGIIHNVEGVAVDWMGDNLYW
:*****.:*****:*****:*****:*****:*****:*****:***

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

TNDGHRKTINVARLEKASQSRKTLLEGMSHPRGIVVDPINGMWMYWDWEDEIDDSVGR
TNDGHRKTINVARLEKASQSRKTLLEGMSHPRGIVVDPVNGMWMYWDWEDEIDDSVGR
TDDGPKTISVARLEKAAQTRKTLIEGKMTHPRAIVVDPPLNGMWMYWDWEEDPKDSRRGR

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

IEKAWMDGFNRQIFVTSK-MLWPNGLTLDFTHTNTLYMCDAYYDHLKVFNGTHRKIYVS
IEKAWMDGFNRQIFVTSK-MLWPNGLTLDFTHTNTLYMCDAYYDHLKVFNGTHRKIYVS
LERAWMDGSHRDI FVTSKTVLWPNGLSLDIPAGRLYWVDAFYDRIETILLNGTDRKIYVE

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

GRELNHPFGLSHHGNYVFWTDYMGSI FQLDLITS----EVTLLRHERPPLFGLQIYDPR
GRELNHPFGLSHHGNYVFWTDYMGSI FQLDLITS----EVTLLRHERPPLFGLQIYDPR
GPELNHPFGLSHHGNYLFWTEYRSGSVYRLERGVGGAPPTVTLLRSERPPIFEIRMYDAQ

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

KQQ-GDNNMCRVNNGGCSTLCIAIPGGRVCACADNQLLDENGTTCTFNPGEALPHICKAGE
KQQ-GDNNMCRVNNGGCSTLCIAIPGGRVCACADNQLLDENGTTCTFNPGEALPHICKAGE
QQQVGTNKRVRNNGGCSLCLATPGSRQCAEDQVLDADGVTCLAMPYSVVPFQCPQGE

FIG. 5C

T09T40' 26655860

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

FRCKNRHCIQARWKCDGDDCLDGSDEDSVNCFNHSCPDDQFKQNNRCCI PKRWLCDGAN
FRCKNRHCIQARWKCDGDDCLDGSDEDSVNCFNHSCPDDQFKQNNRCCI PKRWLCDGAN
FACANSRCIQERWKCDGDNCLDNDSEAPALCHQHTCPSDRFKCENNRCCI PKRWLCDGDN

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

DCGSNEDESNOTCTARTCQVDQFSCGNRCCI PRAWLCDREDDCGQTDEMASCEPPTCEP
DCGSNEDESNOTCTARTCQVDQFSCGNRCCI PRAWLCDREDDCGQTDEMASCEPPTCEP
DCGSNEDESNAATCSARTCPPNQFSCASGRCCI PSWTCDLDDDCGDRSDESASCA YPTCFP

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

LTQFVKSGRCCI SSKWHCDSDDCGDSDEYGCYHSCFDNQFRCSGRCI PGHWACDGDN
LTQFVKSGRCCI SSKWHCDSDDCGDSDEYGCYHSCFDNQFRCSGRCI PGHWACDGDN
LTQFTCNNGRCININWRCDNDNDGDSDEAGCSHSCSSTQFKCNSGRCI PEHWTCGDGN

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

DCGDFSDAQINCTKEEIHSPAGCNGNEFQCHPDGNCVFDLWRCDEKDCEDGSDEKGCN
DCGDFSDAQINCTKEEIHSPAGCNGNEFQCHPDGNCVFDLWRCDEKDCEDGSDEKGCN
DCGYSDETHANCINQARTPPGGCHTDFEQRLDGLCIPLRWRCDGTDGDCMDSDEKSC

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

GTIRLCDHKTKFSCWSTGRCKINAWVCDGDDICEQSDDEDDCDSDLGCGPKHPCANDTSV
GTIRLCDHKTKFSCWSTGRCKINAWVCDGDDICEQSDDEDDCDSDLGCGPKHPCANDTSV
GVTHVCDPSVRFCKDSARCISKAWVCDGDDNDCEDNDEENECESLACRPPSHPCANNSTV

FIG. 5D

TCGT40" 9665E960

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

CLQPEKLCNGKKDCPDGSDGYLDCDECSLNNGGCSNHCSSVPGRCIVCSCPEGLQLNKDN
CLQPEKLCNGKKDCPDGSDGYLDCDECSLNNGGCSNHCSSVPGRCIVCSCPEGLQLNKDN
CLPPDKLDCGNDGCGSDGDEGELCDQCSSLNNGGCSNHCSSVAPGEGIVCSCPLGMELGPDN

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

KTCEIVDYCSNHLKCSQVCEQHKHTVKCSCEYEGWKLDVDGESCTSDVPFEAFIIFSIIRHE
KTCEIVDYCSNHLKCSQVCEQHKHTVKCSCEYEGWKLDVDGESCTSDVPFEAFIIFSIIRHE
HTCQIQSYCAKHLKCSQKCDQNKFSVKCSCEYEGWVLEPDGESCRSLDPFKPFIIFSNRHE

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

IRRIDLHKRDYSLVLPGLRNTIALDPFNQSLLYWTDVVEDRIYRGKLSGGVSAIEW
IRRIDLHKRDYSLVLPGLRNTIALDPFNQSLLYWTDVVEDRIYRGKLSGGVSAIEW
IRRIDLHKRDYSLVLPGLRNTIALDPFHLQSALYWTDVVEDKIYRGKLLDNGALTSFEW

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

VEHGLATPEGLTVDWIAGNIYWIDSNLDQIEVAKLDGSLRTTLIAGAMEHPRAIALDPRI
VEHGLATPEGLTVDWIAGNIYWIDSNLDQIEVAKLDGSLRTTLIAGAMEHPRAIALDPRI
IQYGLATPEGLAVDWIAGNIYWVESNLDQIEVAKLDGTLRTTLIAGDIEHPRAIALDPRI

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

GILFWTDWDANFPRIEASMSGAGRKTIYKDMKTGAWPNGLTVDFHEKRIVMTDARSDAI
GILFWTDWDANFPRIEASMSGAGRKTIYKDMKTGAWPNGLTVDFHEKRIVMTDARSDAI
GILFWTDWDASLPRIEAASMSGAGRRTVHRETGSGGWNGLTVDYLEKRIILWIDARSDAI

FIG. 5E

109140-9665E860

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

YSALVDGTMIEIIRGHEYLSHPFAVSIYGSEVYWDWRNTNLSKANKWTCQNVSVIQKT
YSALYDGTNMTIEIIRGHEYLSHPFAVSIYGSEVYWDWRNTNLSKANKWTCQNVSVIQKT
YSARYDGSGHMEVLRGHEFLSHPPFAVTLYGSEVYWDWRNTNLSKANKWTCQNVSVIQKT

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

SAQPFDLQIYHPSRQPQAPNPCAANDGKGPCSHMCLINHNRSAAACACPHLMKLSDDKKTC
SAQPFDLQIYHPSRQPQAPNPCAANDGKGPCSHMCLINHNRSAAACACPHLMKLSDDKKTC
NTQPFDLQVYHPSRQPMAPNPCAEANGGQGPCSHLCLINYNRTVSCACPHLMKLHKDNTTC

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

YEMKKFLLYARRSEIRGVVDIDNPYNFIFTAFTVPDIDDVTVIDFASERLYWTDIKTQT
YEMKKFLLYARRSEIRGVVDIDNPYNFIFTAFTVPDIDDVTVIDFASERLYWTDIKTQT
YEFKKFLLYARRSEIRGVVDIDNPYNFIFTAFTVPDIDDVTVIDFASERLYWTDIKTQT

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

IKRAFINGTGLETVISRDIQSIIRGLAVDWSRNLYWISSEFDEQINVARLDGSLKTSII
IKRAFINGTGLETVISRDIQSIIRGLAVDWSRNLYWISSEFDEQINVARLDGSLKTSII
IKRAFINGTGVETVVSADLPNAHGLAVDWSRNLFWTSDYNKKQINVARLDGSGFKNAV

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

HGIDKPOCLAAHPVRGKLYWTDGNTINMANMDGSGNSKILFQNKPEPVGLSIDYVENKLYW
HGIDKPOCLAAHPVRGKLYWTDGNTINMANMDGSGNSKILFQNKPEPVGLSIDYVENKLYW
QGLEQPHGLVHVHPLRGKLYWTDGNI SWANMDGSGNRTLLFSGQKGPVGLAIDFPESKLYW

FIG. 5F

109THD*9665E960

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

ISSNGTINRCNLDDGNGLEVIESMKEELTKATALTIMDKLWADONLAQLGTCCKRDR
ISSNGTINRCNLDDGNGLEVIESMKEELTKATALTIMDKLWADONLAQLGTCCKRDR
ISSNGHTINRCNLDDGSGLEVIDAMRSQLGKATALAINGDKLWADQVSEKMGTCCKADGS

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

NPTILRNKTSGVHMKVYDKEAQ--OQSNSCOLNNGCGSQLCLPTSETTRTCTMCTVGY
NPTILRNKTSGVHMKVYDKEAQ--OQSNSCOLNNGCGSQLCLPTSETTRTCTMCTVGY
GSVVLNRNSTTLVHMKVYDESIQLDHKGTNPCSVNNGDCSQLCLPTSETTRTSCMCTAGYS

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

LQKNRMSQCGIESFLMYSVHGGIRGIPLEPSDKMDALMPISGTSFAVGIDFHAENDTIYW
LQKNRMSQCGIESFLMYSVHGGIRGIPLEPSDKMDALMPISGTSFAVGIDFHAENDTIYW
LRSQQAACEGVSGFLLYSVHGGIRGIPLDPNDKSDALVPVSGTSLAVGIDFHAENDTIYW

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

TDMGFNKISRAKRDQTWKEDIITNGLGRVEGIAVDWIAGNIYWTDDHGFNLIEVARLNGSF
TDMGFNKISRAKRDQTWKEDIITNGLGRVEGIAVDWIAGNIYWTDDHGFNLIEVARLNGSF
VDMGLSTISRAKRDQTWREDDVVVTNGICRVEGIAVDWIAGNIYWTDDHGFNLIEVARLNGSF

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

RYVIISQGLDQPRSIAVHPEKGLLFWTEWQMPICIGKARLDGSEKVLVSMGIAMPNGIS
RYVIISQGLDQPRSIAVHPEKGLLFWTEWQMPICIGKARLDGSEKVLVSMGIAMPNGIS
RYVIISQGLDKPRAITVHPEKGYLFWTEWQYPRIERSLDGTERRVVLNVNVSISWPNGIS

FIG. 5G

T09140-9665E860

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

IDYENKLYWCDARTDKIERIDLETGGNREMWLGSNVDMFSVAVFGAYIYWSDRAHANG
IDYENKLYWCDARTDKIERIDLETGGNREMWLGSNVDMFSVAVFGAYIYWSDRAHANG
VDYQDGKLYWCDARTDKIERIDLETGENREVVLSSNNMDMFSVSVPFDIYWSDRTHANG

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

SVRRGHKNDAETITMRTGLGVNLKEVKIFNRVREKGTNVCAVDNGGCKQLCLYRGNSRR
SVRRGHKNDAETITMRTGLGVNLKEVKIFNRVREKGTNVCAVDNGGCKQLCLYRGNSRR
SIKRGSKNDAETISVPLRTGIGVQLKDIKFVFNDRQKGTNVCAVANGGCKQLCLYRGGRQR

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

TCACAHGYLAEDGVTCRLRHEGYLLYSGRTILKSIHLSDETNLNSPIRYPENPRYFKNVIA
TCACAHGYLAEDGVTCRLRHEGYLLYSGRTILKSIHLSDETNLNSPIRYPENPRYFKNVIA
ACACAHGYLAEDGASCREYAGYLLYSERTILKSIHLSDERNLNAPVQPFDEPEHMKNVIA

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

LAFDYNQRRKG--TNRIFYSDAHFGNIQLIKDNWEDRQVIIVENGVSGVEGLAYHRAWDTLY
LAFDYNQRRKG--TNRIFYSDAHFGNIQLIKDNWEDRQVIIVENGVSGVEGLAYHRAWDTLY
LAFDYRACTSPCTPNRIFFSDIHFGNIQQINDGSRRTIIVENGVSGVEGLAYHRAWDTLY

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

WTSSTTSITRHTVDTQTRPGAFDREAVITMSDDHPHVLALDECONLMFWTNWNEQHPHSI
WTSSTTSITRHTVDTQTRPGAFDREAVITMSDDHPHVLALDECONLMFWTNWNEQHPHSI
WTSYTTTITRHTVDTQTRPGAFERETVITMSGDDHPRAFLVLDCEONLMFWTNWNEQHPHSI

FIG. 5H

109140" 9665E860

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

MRSLTIGKNAQVWVSTDILTNGLTIDYRAEKLYFSDGSLGKIERCEYDGSQRHVIKSG
MRSLTIGKNAQVWVSTDILTNGLTIDYRAEKLYFSDGSLGKIERCEYDGSQRHVIKSG
MRAALSGANVLTLIEKDITRTENGLAIDHRAEKLYFSDATLDKIERCEYDGSGRHYVLKSE

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

PGTFLSLAVYDNYIFWSDWGRRAILRSNKYTGDDTKILRSDIPHQPMGIIAIVANDTNSCE
PGTFLSLAVYDNYIFWSDWGRRAILRSNKYTGDDTKILRSDIPHQPMGIIAIVANDTNSCE
PVHPFGLAVYGEHIFWTDWVRRAVQRANKHVGSNMKLLRVDIPQOPMGIIAIVANDTNSCE

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

LSPCALLNGGCHDLCLLTPNGRVNCSRGDRILLLEDNRCVTKNSCSNAYSFEFCNGGECI
LSPCALLNGGCHDLCLLTPNGRVNCSRGDRILLLEDNRCVTKNSCSNAYSFEFCNGGECI
LSPCRINNGGQDLCLLTHQGHVNCSCRGGRILQDDLTCAVAVNSCRAQDEFECANGECI

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

DYQLTCDGIPHCKDKSDEKLLYCNENRSCRRGFKPCYNRRCI PHGKLCIDGENDCGDNDSEL
DYQLTCDGIPHCKDKSDEKLLYCNENRSCRRGFKPCYNRRCI PHGKLCIDGENDCGDNDSEL
NFSLTCDGVPHCOKSDEKPSYCNRRCKKTFROCNSGRVCVSNMLWNCGADDCGDSDEI

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

DCKYSTCATVEFRCADGTICI PRSARCQNIDCADASDEKNCNNTDCTHFYKLGVKTTGFI
DCKYSTCATVEFRCADGTICI PRSARCQNIDCADASDEKNCNNTDCTHFYKLGVKTTGFI
PCNKTAAGVGEFRCDGTICIGNSRNCNOFVDCEDASDEMNC SATDCSSYFRLGVKGVLFQ

FIG. 51

109140 9665860

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

RCNSTSLCVLPTWICDGSNDGCDYSDCLKCPVQNKHKEENYFSCPSGRCILNTWICDGO
RCNSTSLCVLPTWICDGSNDGCDYSDCLKCPVQNKHKEENYFSCPSGRCILNTWICDGO
PCERTSLCYAFSWVODGANDCGDYSDDERDCPGVKRPRCPLNYFACPSGRCIPMSWTCDKE

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

KDCEGDRDEFHCDSSCSWNQFACSAQKICISKHWICDGEDDCGDLDESISICGAIITCAAD
KDCEGDRDEFHCDSSCSWNQFACSAQKICISKHWICDGEDDCGDLDESISICGAIITCAAD
DDCEHGEDETHCNKFCSEAFECQNHRCISKQWLCDGSDGDDCGDGSDE-AAHCEGKTCGPS

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

MFSQGSRAQVPRHWLDCDGERDCPDGSDDELSTAGCAPNNTCDENAFMCHNKVCIPKQFVC
MFSQGSRAQVPRHWLDCDGERDCPDGSDDELSTAGCAPNNTCDENAFMCHNKVCIPKQFVC
SFSQPGTHVCVPRHWLDCDGDKDCADGADESAAGCLYNSTCDDREFMWCQNRQCIPKHFVC

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

DHDDDCGSDSDSPQCGYRQCQTEEFSCADGRCLLNTQWQCDGDFDCPDHSDDEAPLNPKC
DHDDDCGSDSDSPQCGYRQCQTEEFSCADGRCLLNTQWQCDGDFDCPDHSDDEAPLNPKC
DHDRDCADGSDSDPECEYPTCGPSEFRCAANGRCILSSRQWECDEGNDCHDQSDDEAPKNPHC

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

KSAEQSCN-SSFFMCKNGRCIPSGGLCNKDCCDGGSDDERNCHINECLSKKVSQCSQDCQ
KSAEQSCN-SSFFMCKNGRCIPSGGLCNKDCCDGGSDDERNCHINECLSKKVSQCSQDCQ
TSPHEKCNASSQFLCSSGRGVAAELLNGQDDCGDSDSDERCHINECLSKKVSQCSQDCQ

FIG. 5J

TOOTH " 9665E860

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

DLPVYKCKWPGFOLKDDGKTCVDIDECSSGFPSCQCINTYGYKCLCTDGYEIQPDN
DLPVYKCKWPGFOLKDDGKTCVDIDECSSGFPSCQCINTYGYKCLCTDGYEIQPDN
DLKIGFKCRCPGFLKDDGRTCADVDCESTTFPCSQRCINTHGSYKCLCEGYAPROGD

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

PNGCKSLDEEPFLILADHHEIRKISTDGSNYTLKQGLNNVIALDFDYREEFIYWDSS
PNGCKSLDEEPFLILADHHEIRKISTDGSNYTLKQGLNNVIALDFDYREEFIYWDSS
PHSKAVTDEEPFLIFANRYYLRLKUNLDGSNYTLKQGLNNAVALDFDYREQMITYWTDVT

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

RPNGSRINRMCLNGSDIKVHNTAVPN - ALAVDWIGKNLYWSDTEKRIIEVSKLNGLYP
RPNGSRINRMCLNGSDIKVHNTAVPN - ALAVDWIGKNLYWSDTEKRIIEVSKLNGLYP
T-QGSMIRRMHNGSNVQLHRTGLSNPDGLAVDWVGNGLYWCDKGRDTIEVSKLNGAYR

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

TILVSKRLKFFRDLISLDPQAGLYWIDCCEYPHIGRVGMDGTNQSIVLETKISRPMALTI
TILVSKRLKFFRDLISLDPQAGLYWIDCCEYPHIGRVGMDGTNQSIVLETKISRPMALTI
TILVSSGLREPRALVDVQNGLYWTDGHDHSLIGRIGMDGSSRSIVDTKITWPNGLTL

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

DYVNRRLYWAD - ENHIEFSNMDSGSHRHKVPNQDIPGVIALTLFEDIYIYWDGKTKLSLR
DYVNRRLYWAD - ENHIEFSNMDSGSHRHKVPNQDIPGVIALTLFEDIYIYWDGKTKLSLR
DYVTERIYWADAREDIIEFASLDGSRHVVLSQDIPHIFALTLFEDIYIYWDGKTKLSLR

FIG. 5K

FIG. 5A

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

AHKTSAGDRLSLIYSWHAITDIQVYHSYRQPDVSKHLCMINNGGCSHLCILAPGKHTTCA
AHKTSAGDRLSLIYSWHAITDIQVYHSYRQPDVSKHLCMINNGGCSHLCILAPGKHTTCA
AHKTTGTNKTLLISTLHRPMDLHVPHALRQPDVPHNPKVANGGCSNLCILSPGGGHKCA

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

CPTNFYLAADNRITCLSNCTASQFRCKTDKCIPIFWWKCDTVDDCGDSEDDDCPEFRQCP
CPTNFYLAADNRITCLSNCTASQFRCKTDKCIPIFWWKCDTVDDCGDSEDDDCPEFRQCP
CPTNFYLGSDGRITCVSNCTASQFVCKNDKCIPIFWWKCDTEDDCGDSDEDDDCPEFKCRP

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

GRFOCGTGLCALPAFICDGENDCGNSDELNCDTHVCLSGQFKCTKNQKCIPIVNLRCNGQ
GRFOCGTGLCALPAFICDGENDCGNSDELNCDTHVCLSGQFKCTKNQKCIPIVNLRCNGQ
GQFQCSTGICTNPAFICDGDNDQDQNSDEANCDIHVCLPSQFKCTNTNRCIPGIFRCNGQ

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

DDCGDEEDRDCPENSCSPDYFQCKTTHKICISKLWVCEDEDDPCADASDE-ANCDKKTGCP
DDCGDEEDRDCPENSCSPDYFQCKTTHKICISKLWVCEDEDDPCADASDE-ANCDKKTGCP
DNCGDGEDRDCPEVTCAPNQFQCSITKRCIPRVWVCDRDNDVDCDSEDEPANCTQMTQCV

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

HEFOCKNNN-CIPDHWCDSQNDCSDNSDENCKPQTCTLKDFLCANGDCVSSRFFWCDGD
HEFOCKNNN-CIPDHWCDSQNDCSDNSDENCKPQTCTLKDFLCANGDCVSSRFFWCDGD
DEFRCKDSGRICIPARWKCDGEDDCDGDSEDEPKEE-----CD--

FIG. 5B

109140*96655860

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

FDCADGSDERNCETSCSKDQFRCSNGQCIPAKWKCDEGCKYGEDEKSCFPASPCTCSSR
FDCADGSDERNCTSCSKDQFRCSNGQCIPAKWKCDEGCKYGEDEKSCFPASPCTCSSR
-----ERTCEPYQFRCKNNRCVPGRWQCDYDNDCGDSDSEESTPRP--CSES

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

EYICASDGCISASLKCNGEYCADGSDMDCVTECKEDQFRCKNKAHCIPIRWLCDGIHD
EYICASDGCISASLKCNGEYCADGSDMDCVTECKEDQFRCKNKAHCIPIRWLCDGIHD
EFSCANGRCIAGRWKCDGHDCAADGSDKDKCTPRCDMDQFQCK-SGHCIPILRWRCDADAD

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

CVDGSDDEENCRGGNICRADEFLOWNSLCKLHFVWCDGEDDCGNSDEAPDMCVKFLCPS
CVDGSDDEENCRGGNICRADEFLOWNSLCKLHFVWCDGEDDCGNSDEAPDMCVKFLCPS
CWDGSDDEEACGTGVRTCPLDEFQCNNTLCKPLAWKCDGEDDCGNSDENPEECARFVCP

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

TRPHRCNNRNICLQSEQMCNGIDECGNSDEHDHCGGKLTYYKARPCCKDEFPACSNKKCIIPM
TRPHRCNNRNICLQSEQMCNGIDECGNSDEHDHCGGKLTYYKARPCCKDEFPACSNKKCIIPM
NRPFRCNDRVCLWIGRQCDGTDCGDTDEEDCEPPTAHTTHCKDKKEFLCRNQRCLSS

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

DLQCDRLDDCGDGSDEQGCRIAPTETCTEDNVNPGDDAYCNQIKTSVFCRCKPGFQBNM
DLQCDRLDDCGDGSDEQGCRIAPTETCTEDNVNPGDDAYCNQIKTSVFCRCKPGFQBNM
SLRCNMFDGCGDGSDEEDCSIDPDKLTSCTATNASICGDEARCVRTEKAAAYCACRSGFHTVP

FIG. 5M

FIG. 5A

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

KNRQEDINECLVFGTCSHQCNINVEGSKVCQDQNFQERNNTCTAEGSEDQVLYIANDTD
KNRQEDINECLVFGTCSHQCNINVEGSKVCQDQNFQERNNTCTAEGSEDQVLYIANDTD
GQPGQDINECLVFGTCSQLCNNHTKGHLCSARNFMKTHNTCKAEGSEYQVLYIADNNE

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

ILGFTYFPNYSGDHQIISHIEHNSRITGMDVYVYQDMLIWSTQFNPGGIFYKRIH-----
ILGFTYFPNYSGDHQIISHIEHNSRITGMDVYVYQDMLIWSTQFNPGGIFYKRIH-----
IR-SLFFGPHPSAYEQAFQGESVRIDAMDVHVVKAGRVIW-TNWHGTGISYRSUPPAAPP

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

---GREKQANS---LICPEFKRPDIADVWAGNIYWDHSRMHWFSYTTHWTSURY
---GREKQANS---LICPEFKRPDIADVWAGNIYWDHSRMHWFSYTTHWTSURY
TTSNRHRRQIDRGVTHLNIISGLKMPRGIAIDWAGNVYWTDSG-----RD

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

SINVGQLNGPNCNTRLLTNWAGEPYAIAVNPKRGMYWTIVGDSHSHIEEAAMDGTLLRLILV
SINVGQLNGPNCNTRLLTNWAGEPYAIAVNPKRGMYWTIVGDSHSHIEEAAMDGTLLRLILV
VIEVAQMKGENKRTLISGMIDEPHAIIVDPLRGTYWSDWGNHPKIEAAMDGTLLRETLV

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

QKNLQRPGLAVDYVFSERIYWADFELSIIIGSVLYDGSNSVSVSKQGLLHPHRIDIFED
QKNLQRPGLAVDYVFSERIYWADFELSIIIGSVLYDGSNSVSVSKQGLLHPHRIDIFED
QDNIQWPTGLAVDYHNERLYWADAKLSVIGSIRLNGTDPIVAADS KRGLSHPPFSIDVPED

FIG. 5B

109740: 9665E960

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

YIYG-AGPKNGVFRVQKFGHGSVEYLALNIDKTGVLISHRYKQLDLNPNCLDLACEPLC
YIYG-AGPKNGVFRVQKFGHGSVEYLALNIDKTGVLISHRYKQLDLNPNCLDLACEPLC
YIYGTYINNRFKIHKFGHSPLYNLTCGLSHASDWLYHQHKQPEVTNPNCDRKKCEWLC

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

LLNPSGATCVCEPGKYLINGTCN-----DSSLDDSCKLTCENGGRCTLNEKGDILRC
LLNPSGATCVCEPGKYLINGTCN-----DSSLDDSCKLTCENGGRCTLNEKGDILRC
LLSPSGPVCTCPNGKRLDNGTCVPVPSPTPPDAPRPGTCNLQCFNGSGCFINARRQPKC

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

HCWPSYGERCEVNHCSNYCONGGTCVPSVLGRPTCSALGFTGPNCGKTVCEDFCONGG
HCWPSYGERCEVNHCSNYCONGGTCVPSVLGRPTCSALGFTGPNCGKTVCEDFCONGG
RCQPRYTGDKCELDQCWEHCRNGGTCAAASPSGMPTCRPTGTGTGPKCTQQVCAGYCANNS

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

TCIIVTAGNQPYCHCQPEYTGDRQCQYVCHHYCVNSESCTIGDDGSLECVCPTRYEGPKCE
TCIIVTAGNQPYCHCQPEYTGDRQCQYVCHHYCVNSESCTIGDDGSLECVCPTRYEGPKCE
TCTVNGNQPCRCCLPGFLGDRQCQYRQCSGYCENFGTQMAADGSRQCRCRTAYPEBSRCE

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

VDKVCVRCHGHCI INKDSIEDIFCNCTNGKLIASSOQLCDGYCVNGTGCQLDPETNVPVCLC
VDKVCVRCHGHCI INKDSIEDIFCNCTNGKLIASSOQLCDGYCVNGTGCQLDPETNVPVCLC
VNKSRCLGACVNVNKSQSGDVTCTNCTDGRVAPSLCTCVGHCSNGSGSCTWN-SKMPPECQC

FIG. 50

T09140-9665860

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

STNWSGTQCPAPKSKSDHISTRSAIIIVPLVLLVTLITTLVIGLVLCRRKRTKTIR
STNWSGTQCPAPKSKSDHISTRSAIIIVPLVLLVTLITTLVIGLVLCRRKRTKTIR
PPHMTGPRCEEHVFSQQPGHIAS----LLPLLLLLLLVLVAGVVFVWYKRRVQAKGFQ

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

RQPIINGGINVEIGNPSYNNMYEVDHHDNDGGLLDPGFMDPTKARYIGGSPSAFKLPHTA
RQPIINGGINVEIGNPSYNNMYEVDHHDNDGGLLDPGFMDPTKARYIGGSPSAFKLPHTA
HQRMWTGANMVEIGNPTYKMYEGGEPDVGGLLDADFDALDDPK-----P-----

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

PPIYLNSDLKGPLTAGPTNYSNPVYAKLYMDGQNCNSLGSVDERKELLPKKIEIGIRET
PPIYLNSDLKGPLTAGPTNYSNPVYAKLYMDGQNCNSLGSVDERKELLPKKIEIGIRET
-----TNFTNPVYATLYMGHGSRHSLASTDEKRELLGRGPEDEIGDP

SEQ ID NO: 15
SEQ ID NO: 33
gi7861733
R47861

--
VA
VA
LA

FIG. 5P

109140" 96659860

SEQ ID NO: 13	MRPVSWQSWPWG-LLLCLLSSCLGSPSPGTGPEKKAGSQGLRFLRAGFPRKPYEGRVE
SEQ ID NO: 29	MRPVSWQSWPWG-LLLCLLSSCLGSPSPGTGPEKKAGSQGLRFLRAGFPRKPYEGRVE
A47799_aa1	MRPVSWQSWPWG-LLLCLLSSCLGSPSPGTGPEKKAGSQGLRFLRAGFPRKPYEGRVE
SEQ ID NO: 31	MRPVSWQSWPWG-LLLCLLSSCLGSPSPGTGPEKKAGSQGLRFLRAGFPRKPYEGRVE
g13978171	MRASVWYCCPWGLLLHCLCSFVSFGSPSPISPEKKVGSQGLRFLRAGFPRKPYEGRVE
	** **** ** ** ..***** .**** *****
SEQ ID NO: 13	IQRAGEWGTICDDDDFTLQAAHILCRELGFTTEATGWTSHSAKYGPGTGRWLNDNLSCSGTEQ
SEQ ID NO: 29	IQRAGEWGTICDDDDFTLQAAHILCRELGFTTEATGWTSHSAKYGPGTGRWLNDNLSCSGTEQ
A47799_aa1	IQRAGEWGTICDDDDFTLQAAHILCRELGFTTEATGWTSHSAKYGPGTGRWLNDNLSCSGTEQ
SEQ ID NO: 31	IQRAGEWGTICDDDDFTLQAAHILCRELGFTTEATGWTSHSAKYGPGTGRWLNDNLSCSGTEQ
g13978171	IQRAGEWGTICDDDDFTLQAAHILCRELGFTTEATGWTSHSAKYGPGTGRWLNDNLSCSGTEG
	*****;*****
SEQ ID NO: 13	SVTECASRGWNSDCTHDEDAGVICKQORLPFGSDSNVIEVEHHLQVEEVRIIRPAVGWGR
SEQ ID NO: 29	SVTECASRGWNSDCTHDEDAGVICKQORLPFGSDSNVIEVEHHLQVEEVRIIRPAVGWGR
A47799_aa1	SVTECASRGWNSDCTHDEDAGVICKQORLPFGSDSNVIEVEHHLQVEEVRIIRPAVGWGR
SEQ ID NO: 31	SVTECASRGWNSDCTHDEDAGVICKQORLPFGSDSNVIEAR-----
g13978171	SVTECASRGWNSDCTHDEDAGVICKQORLPFGSDSNVIEVEHQLQVEEVRLRPAVEWGR

SEQ ID NO: 13	RPLPVTGELVEVRLPDGWSQVCDKGWSAHNSHVWCGMLGFPSEKRVNAAFYRLLAQROQH
SEQ ID NO: 29	RPLPVTGELVEVRLPDGWSQVCDKGWSAHNSHVWCGMLGFPSEKRVNAAFYRLLAQROQH
A47799_aa1	RPLPVTGELVEVRLPDGWSQVCDKGWSAHNSHVWCGMLGFPSEKRVNAAFYRLLAQROQH
SEQ ID NO: 31	RPLPVTGELVEVRLPDGWSQVCDKGWSAHNSHVWCGMLGFPSEKRVNAAFYRLLAQROQH
g13978171	RPLPVTGELVEVRLPDGWSQVCDKGWSAHNSHVWCGMLGFPSEKRVNAAFYRLLAQROQH

FIG. 6A

109140" 9665E860

SEQ ID NO: 13	SFGLHGACVGEAHLSCSLEFYRANDTARCPGGGPAVWSCVPGPVYAASSGQKKQQQS
SEQ ID NO: 29	SFGLHGACVGEAHLSCSLEFYRANDTARCPGGGPAVWSCVPGPVYAASSGQKKQQQS
A47799_aal	SFGLHGACVGEAHLSCSLEFYRANDTARCPGGGPAVWSCVPGPVYAASSGQKKQQQS
SEQ ID NO: 31	-----
gi3978171	SFGLHSVACVGEAHLSCSLEFYRANDTTRCSGNGPAVWSCVLGPLYATFTGQKKQQQS
SEQ ID NO: 13	KPQGEVRVRLKGAHPGEGRVEVLKASTWGTVCYRKWDLHAASVVCRELFGSAREALSG
SEQ ID NO: 29	KPQGEVRVRLKGAHPGEGRVEVLKASTWGTVCYRKWDLHAASVVCRELFGSAREALSG
A47799_aal	KPQGEARVRLKGAHPGEGRVEVLKASTWGTVCYRKWDLHAASVVCRELFGSAREALSG
SEQ ID NO: 31	-----VRLKGAHPGEGRVEVLKASTWGTVCYRKWDLHAASVVCRELFGSAREALSG
gi3978171	KPQGEARVRLKGAHQGEGRVEVLKAGTWGTVCYRKWDLQAASVVCPELGFGTAREALSG
	***** ***** ***** ***** ***** ***** ***** *****
SEQ ID NO: 13	ARMGQGMGAIHLSEVRCSGQELSLWKCPHKNI TAEDCSHSQVIHS-----VSLQIRL
SEQ ID NO: 29	ARMGQGMGAIHLSEVRCSGQELSLWKCPHKNI TAEDCSHSQDAGVRCNLPTGTAEIRLRL
A47799_aal	ARMGQGMGAIHLSEVRCSGQELSLWKCPHKNI TAEDCSHSQDAGVRCNLPTGTAEIRLRL
SEQ ID NO: 31	ARMGQGMGAIHLSEVRCSGQELSLWKCPHKNI TAEDCSHSQDAGVRCNLPTGTAEIRLRL
gi3978171	ARMGQGMGAIHLSEVRCSGQEPFLWRCPFSKNI TAEDCSHSQDAGVRCNLPTGTAEIRLRL
	***** ***** ***** ** ** ***** ***** .. : **
SEQ ID NO: 13	SGGRSQHEGRVEVQIGGPGPLRWGLI CGDDMGTTLEAMVACRQLGLGYANHGLQETWYWDS
SEQ ID NO: 29	SGGRSQHEGRVEVQIGGPGPLRWGLI CGDDMGTTLEAMVACRQLGLGYANHGLQETWYWDS
A47799_aal	SGGRSQHEGRVEVQIGGPGPLRWGLI CGDDMGTTLEAMVACRQLGLGYANHGLQETWYWDS
SEQ ID NO: 31	SGGRSQHEGRVEVQIGGPGPLRWGLI CGDDMGTTLEAMVACRQLGLGYANHGLQETWYWDS
gi3978171	SGGRSRVEGRVEVQIGIPGHLRWGLI CGDDMGTTLEAMVACRQLGLGYANHGLQETWYWDS
	***** : ***** ** ***** ***** ***** ***** *****

FIG. 6B

109140" 96555960

SEQ ID NO: 13
SEQ ID NO: 29
A47799 aa1
SEQ ID NO: 31
g13978171

HRIWVH-----
HRIWVHCHIGDAFSEANRRFRYPGQTSNQII
HRIWVHCHIGDAFSEANRRFRYPGQTSNQII
HRIWVHCHIGDAFSEANRRFRYPGQTSNQII
HRIWVHCHIGDAFSEANRRFRYPGQTSNQIV

FIG. 6D